



Translation

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P2898/PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/014092	International filing date (day/month/year) 11 December 2003 (11.12.2003)	Priority date (day/month/year) 11 December 2002 (11.12.2002)
International Patent Classification (IPC) or national classification and IPC B29C 45/78, G01K 1/14		
Applicant PRIAMUS SYSTEM TECHNOLOGIES AG		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 9 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 16 June 2004 (16.06.2004)	Date of completion of this report 29 March 2005 (29.03.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/014092

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 4-8 _____, as originally filed
 pages _____, filed with the demand
 pages _____ 1-3 _____, filed with the letter of _____ 02 November 2004 (02.11.2004)
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____ 1-9 _____, filed with the letter of _____ 02 November 2004 (02.11.2004)
- ☒ the drawings:
 pages _____ 1/1 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 7-9

because:

☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. _____ are so inadequately supported
by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 7-9.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

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IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

See the supplemental sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-6

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV. 3

Lack of unity of invention

1. The application contains two technical features:
 - the measuring element is clamped within the sensor body or within a crimp sleeve upstream of the sensor body (claims 1-6);
 - during manufacture of the temperature-monitoring device, the measuring element is drawn through a drill hole in the sensor body until it projects slightly from the drill hole and is then ground down (claims 7-9).
2. The common technical feature linking the two groups of claims is a temperature-monitoring device comprising a measuring element, which feature is already known (see document JP-A-60040217, for example).
- 2.1 The special technical feature common to claims 1-6 resides in the fact that the measuring element is clamped. The problem thus solved is that of preventing the measuring element from deviating from the desired position for use (see description, page 3, lines 10-12). Surprisingly, the machining of the end of the measuring element is not discussed here.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV.3

2.2 The special technical feature common to claims 7-9 resides in the fact that the measuring element first draws a sensor body through a corresponding drill hole, at least as far as the outer walls of said sensor body, until it projects slightly from the drill hole and is then ground down. The problem thus addressed is that of preventing sensor inaccuracy caused by irregularity of the end face (see the description, page 2, lines 7-10). Clamping the measuring element is not mentioned in this context and therefore does not constitute part of the method.

2.3 Thus, the application concerns two different problems, said problems being solved by different measures. The application therefore fails to satisfy the requirement of unity of invention (PCT Rule 13.1 and 13.2).

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following documents:

- D1: DE 197 09 609 A (FRAUNHOFER GES FORSCHUNG)
24 September 1998 (1998-09-24)
- D2: US 2001/026577 A1 (MUZIOL MATTHIAS)
4 October 2001 (2001-10-04)
- D3: DE 16 40 840 B (LICENTIA GMBH)
14 May 1970 (1970-05-14)
- D4: JP 59 210333 A (MATSUSHITA DENKI SANGYO KK),
29 November 1984 (1984-11-29)
- D5: US-A-3 811 958 (MAURER J)
21 May 1974 (1974-05-21)
- D6: JP 60 040217 A (MATSUSHITA DENKO KK),
2 March 1985 (1985-03-02)

2. Certain defects and observations

2.1 Contrary to PCT Rule 5.1(a)(ii), the description does not cite document D2 or indicate the relevant prior art disclosed therein.

2.2 Independent claim 5 has not been drafted in the two-part form defined by PCT Rule 6.3(b). However, in

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the present instance, the two-part form would appear to be appropriate. Accordingly, the features known in combination from the prior art (document D2) should have been placed in the preamble (PCT Rule 6.3(b)(i)) and the remaining features specified in the characterising part (PCT Rule 6.3(b)(ii)).

- 2.4 In claims 1 and 5, the expression "in particular" is used. The applicant is advised (PCT Article 6) that an expression of this type does not restrict the scope of a claim (see PCT Guidelines, paragraph 5.40).

3. INDEPENDENT CLAIMS

The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claims 1 and 5 does not involve an inventive step (PCT Article 33(3)).

- 3.1 Document D1 is considered to be the prior art closest to the subject matter of claim 1. Said document discloses a device for measuring, monitoring and/or controlling a temperature, in particular the temperature of the tool wall in an injection moulding tool, using at least one measuring element, which element draws a sensor body through a corresponding drill hole at least as far as the outer walls thereof (see column 7, lines 5-18). The subject matter of claim 1 differs therefrom in that the measuring element is clamped in a crimp sleeve upstream of the sensor body. The technical problem addressed by the invention is that

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of devising a simple way of preventing deviation of the measuring elements from their desired position. In this way, more accurate and reliable measurement can be ensured.

The solution proposed in claim 1 of the present application cannot be considered inventive; the reasons are as follows:

D2 discloses a device for measuring, monitoring and/or controlling a temperature, using at least one measuring element, which element draws a sensor body through a corresponding drill hole, a measuring element (10, 11) being clamped (19, 20, 21) in a crimp sleeve (4) upstream of the sensor body.

In this way potential displacement of the measuring element is precluded (see pages 2 and 3, paragraphs 29 to 30).

The above measure is a conventional one in the field of temperature sensors (see also D3, column 1, lines 32-33 and D4, reference sign 22 in figure 3, or D5, column 3, lines 19-28) and, for a person skilled in the art, does not involve an inventive step. The incorporation of said features into the device described in D1, for the purpose of solving the problem of interest, would therefore be considered obvious.

- 3.2 Document D2 is considered to be the prior art closest to the subject matter of claim 5. Said document discloses a method for producing a device for monitoring a temperature by means of at least

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one measuring element (1, 10, 11), which measuring element draws a sensor body (3) through a corresponding drill hole, a crimp sleeve (4) being attached to the sensor body, a connecting line (22) being drawn with the measuring element (10, 11) through the inside of the crimp sleeve (4), the inner cross section of said crimp sleeve being at least partially reduced (19, 20, 21) and, thus, the connecting line (22) being secured within the crimp sleeve (see paragraphs 23-30).

The subject matter of claim 5 differs therefrom in that the measuring element (1, 10, 11) draws the sensor body through at least as far as the outer wall thereof. The technical problem addressed by the invention is that of devising a simple way of preventing the measuring elements (1, 10, 11) from sensing the temperature to be measured when they are not in a predetermined position. Since the fore-part of the measuring element projects at least as far as the fore-part of the sensor body, temperature measurements can be made directly and not at an imprecisely defined distance. In this way, more accurate and reliable measurement can be obtained.

The solution proposed in claim 5 of the present application cannot be considered inventive. The reasons are as follows:

As already set out under point 2.1, the technical measure, according to which the measuring element draws a sensor body through a corresponding drill

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hole at least as far as the outer walls of the sensor body, is already known from D1. The advantage of such a feature, namely that the measuring element is directly exposed to the space of which the temperature is to be monitored, is likewise already known (see column 7, lines 10-14). A person skilled in the art would therefore consider the incorporation of said feature into the method described in D2 to be an obvious measure for solving the problem of interest.

4. DEPENDENT CLAIMS

The remaining technical features of dependent claims 2-4 and 6 represent routine design measures that, for a person skilled in the art, do not involve an inventive step (see in particular document D2 for claim 2; document D3 (in particular reference number 3) for claim 3; document D6 (in particular reference number 17) for claim 4; and document D5 (in particular reference number 32) for claim 6). In consequence, claims 2-4 and 6 fail to meet the requirements of PCT Article 33(3).

5. Claims 1-6 satisfy the requirements of PCT Article 33(4).